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--49. (New) An apparatus according to Claim 1 or 9, wherein said first coupling portion has a polygonal shape.

50. (New) An apparatus according to Claim 15 or 23, wherein said first coupling portion has a polygonal shape.

51. (New) A process unit according to Claim 32 or 40, wherein said coupling portion has a polygonal shape.--.

Remarks

Summary

Amended independent Claims 1, 15, and 32 recite at least one feature not disclosed or suggested by the patent to Azuma, et al. Therefore, is the outstanding rejection of these claims over this patent still proper?

Status of the claims

Claims 1- 4, 7-9, 13, 15-18, 20-23, 31-36, 39-42, and 44-48 have been amended to improve their form. Independent Claims 1, 15, and 32 have also been amended to overcome a substantive rejection. Claims 9, 23, and 40 have been redrafted in independent form. Claims 37 and 38 have been canceled without prejudice. Claims 49-51 have been added. Therefore, Claims 1-36 and 39-51 are pending. Claims 1, 9, 15, 23, 32, and 40 are independent.

Requested action

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the foregoing amendments and the following remarks.

Formal rejection

Claims 8, 13, and 15-48 are rejected under 35 U.S.C. § 112, second paragraph, for minor informalities in Claims 8, 13, 15, 17, 22/1, 32, 35, 37, 38, 39, 44, 46, and 47. In response, while not conceding the propriety of the rejection, Claims 37 and 38 have been canceled without prejudice and Claims 8, 13, 15, 17, 22/1, 32, 35, 39, 44, 46, and 47 have been amended. Applicants submit that as amended, these claims now even more clearly satisfy 35 U.S.C. § 112, second paragraph.

Allowable subject matter

Claims 9-12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In addition, the Examiner has indicated that Claims 13, 23-28, and 40-45 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112, second paragraph, and to include all the limitations of the base claim and any intervening claims.

Applicants gratefully acknowledge the indication that Claims 9-14, 23-28, and 40-45 contain allowable subject matter. In response, Applicants have redrafted Claims 9, 23, and 40 in independent form and have amended Claims 23 and 40 to overcome the formal rejection under

35 U.S.C. § 112, second paragraph. Therefore, Applicants respectfully request that these claims and their dependent claims now be allowed.

Substantive rejections

Claims 1-3, 5-8, 15-17, 19-22, 30-33, 35-39, and 46-48 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,035,159 (Azuma, et al.). Claims 4, 18, and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the patent to Azuma, et al. in view of U.S. Patent No. 5,768,656 (Nagasue, et al.). Claim 29 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the patent to Azuma, et al. in view of U.S. Patent No. 6,016,413 (Yokoyama, et al.).

Response to substantive rejections

In response, while not conceding the propriety of the rejections, independent Claims 1, 15, and 32 have been amended. Applicants submit that as amended, these claims are allowable for the following reasons.

Independent Claim 1 relates to a drive transmission apparatus. Claim 1 has been amended to recite that the drive transmission apparatus is for transmitting a driving force to a member to be driven. The apparatus comprises a first coupling portion, a second coupling portion having a hole portion which has a cross-sectional configuration larger than the first coupling portion, the hole portion being engageable with the first coupling portion, and a center shaft being provided on one of the first coupling portion and the second coupling portion, and the

center shaft penetrating the other one of the first coupling portion and the second coupling portion.

Claim 1 has also been amended to recite that one of the first coupling portion and the second coupling portion receives the driving force and is fixed to the member to be driven.

Independent Claim 15 relates to an image forming apparatus comprising a photosensitive member, charging means for charging the photosensitive member, image forming means for forming an electrostatic image on the photosensitive member charged by the charging means, developing means for developing the electrostatic image, transferring means for transferring the image developed by the developing means onto a recording material, a driving source, a driver for transmitting a driving force from the driving source to the photosensitive member, a first coupling portion, a second coupling portion having a hole portion which has a cross-sectional configuration larger than the first coupling portion, the hole portion being engageable with the first coupling portion, and a center shaft provided on one of the first coupling portion and the second coupling portion, the center shaft penetrating the other one of the first coupling portion and the second coupling portion.

Claim 15 has been amended to recite that one of the first coupling portion and the second coupling portion receives the driving force and is fixed to the photosensitive member, and the other one of the first coupling portion and the second coupling portion is provided on the driver.

Independent Claim 32 relate to a process unit.

Claim 32 has been amended to recite that the process unit is detachably mountable to a main assembly of an image forming apparatus having a driving portion. Claim 32 also recites that the process unit includes process means actable on a photosensitive member.

Claim 32 has also been amended to recite that the process unit comprises a coupling portion fixed to the photosensitive member and engageable with the driving portion of the main assembly of the apparatus, and a hole portion engaged with a center shaft penetrating an engaging portion between the coupling portion and the driving portion.

By these arrangements, the deviation of the rotational center can be effectively prevented, even when the member to be driven or the photosensitive member experiences an external force other than the intended driving force.

In contrast, the patent to Azuma, et al. is not understood to disclose or suggest that one of a first coupling portion and a second coupling portion receives a driving force and is fixed to a member to be driven, as recited by amended Claim 1. In addition, the patent to Azuma, et al. is not understood to disclose or suggest that one of a first coupling portion and a second coupling portion receives a driving force and is fixed to a photosensitive member, and the other one of the first coupling portion and the second coupling portion is provided on a driver, as recited by amended Claim 15. Moreover, the patent to Azuma, et al. is not understood to disclose or suggest that a process unit comprises a coupling portion fixed to a photosensitive member and engageable with a driving portion of a main assembly of an image forming apparatus, and a hole portion engaged with a center shaft penetrating an engaging portion between the coupling portion and the driving portion, as recited by amended Claim 32. Rather, the element of the Azuma, et al. patent identified in the Office Action as comprising the first coupling portion, the coupling shaft projection 20, is not fixed to a member to be driven, i.e., the photosensitive drum 7, but is merely fixed to a drum shaft projection 16 of the drum 7, as is drum drive gear 22, identified in the Office Action as the second coupling portion (because as seen in Figure 9 and as discussed at

column 6, lines 1-28, coupling shaft recess 17 engages projection 16, and recess 17 is provided in one end of coupling shaft 18, the other end of which has projection 20, which engages a recess 21 formed in the center of the drum drive gear 22).

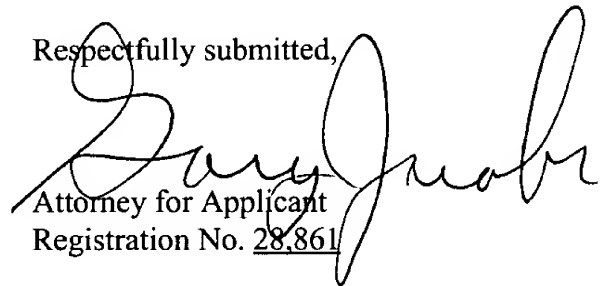
For these reasons, amended independent Claims 1, 15, and 32 are allowable over the patent to Azuma, et al.

The dependent claims are allowable for the reasons given for the allowance of the independent claims and because they recite features that are patentable in their own right. Individual consideration of the dependent claims is respectfully solicited.

In view of the above amendments and remarks, the claims are now in allowable form. Therefore, early passage to issue is respectfully solicited.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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Marked-up copy of Amended Claim

1. (Amended) A drive transmission apparatus for transmitting a driving force to a member to be driven comprising:

a first coupling portion [having a polygonal shape];

a second coupling portion having a hole portion which has a cross-sectional configuration larger than said first coupling portion, said hole portion being engageable with said first coupling portion; and

a center shaft being provided on one of said first coupling portion [or] and said second coupling portion, and said center shaft penetrating the other one of said first coupling portion and said second coupling portion,

wherein one of said first coupling portion and said second coupling portion receives the driving force and is fixed to the member to be driven.

2. (Amended) An apparatus according to Claim 1, wherein said first coupling portion receives [a] the driving force from said second coupling portion.

3. (Amended) An apparatus according to Claim 1, wherein said second coupling portion is movable in an axial direction of said center shaft, and is provided with an urging means for urging said second coupling portion in the axial direction of said center shaft.

4. (Amended) An apparatus according to Claim 1, wherein said center shaft has a taper configuration at [the] an end portion thereof.

7. (Amended) An apparatus according to Claim [5 or] 6, wherein said polygonal hole portion of said second coupling portion is twisted.

8. (Amended) An apparatus according to Claim 1, wherein said center shaft is rotatable integrally with said first coupling portion and said second coupling [portions] portion.

9. (Amended) [An] A drive transmission apparatus comprising:[according to Claim 8]

a first coupling portion;

a second coupling portion having a hole portion which has a cross-sectional configuration larger than said first coupling portion, said hole portion being engageable with said first coupling portion;

a center shaft being provided on one of said first coupling portion and said second coupling portion, and said center shaft penetrating the other one of said first coupling portion and said second coupling portion,

wherein said center shaft is rotatable integrally with said first coupling portion and said second coupling portion; and [, further comprising]

brake means actable on said center shaft in its circumferential direction.

13. (Amended) An apparatus according to Claim 9, wherein said brake means is provided with a torque[!!].

15. (Amended) An image forming apparatus comprising:

- a photosensitive member;
- charging means for charging said photosensitive member;
- image forming means for forming an electrostatic image on said photosensitive member [and] charged by said charging means;
- developing means for developing the electrostatic image;
- transferring means for transferring the image developed by said developing means onto a recording material;
- a driving source;
- a driver for transmitting a driving force from said driving source to said photosensitive member;
- a first coupling portion [having a polygonal shape];
- a second coupling portion having a hole portion which has a cross-sectional configuration larger than said first coupling portion, said hole portion being engageable with said first coupling portion; and
- a center shaft provided on one of said first coupling portion [or] and said second coupling portion, said center shaft penetrating the other one of said first coupling portion and said second coupling portion [;],
- wherein one of said first coupling portion and said second coupling portion receives the driving force and is fixed to said photosensitive member, and the other one of [has one of] said first coupling portion and said second coupling portion is provided on [, and] said driver[as the other coupling portion].

16. (Amended) An apparatus according to Claim 15, wherein said first coupling portion receives [a] the driving force from said second coupling portion.

17. (Amended) An apparatus according to Claim 15, wherein said photosensitive member is positioned [currently] correctly relative to said image forming apparatus using said center shaft.

18. (Amended) An apparatus according to Claim 15, wherein said center shaft has a taper configuration at [the] an end portion thereof.

20. (Amended) An apparatus according to Claim [15] 19, wherein the hole portion of said second coupling portion has a polygonal cross-section.

21. (Amended) An apparatus according to Claim [15] 20, wherein said polygonal hole portion of said second coupling portion is twisted.

22. (Twice Amended) An apparatus according to Claim [1 or 15] 15, wherein said center shaft is rotatable integrally with said first and second coupling portions.

23. (Amended) An image forming apparatus comprising: [according to Claim 15, further comprising]
a photosensitive member;

charging means for charging said photosensitive member;

image forming means for forming an electrostatic image on said photosensitive member charged by said charging means;

developing means for developing the electrostatic image;

transferring means for transferring the image developed by said developing means onto a recording material;

a driving source;

a driver for transmitting a driving force from said driving source to said photosensitive member;

a first coupling portion;

a second coupling portion having a hole portion which has a cross-sectional configuration larger than said first coupling portion, said hole portion being engageable with said first coupling portion;

a center shaft provided on one of said first coupling portion and said second coupling portion, said center shaft penetrating the other one of said first coupling portion and said second coupling portion,

wherein said photosensitive member has one of said first coupling portion and said second coupling portion, and said driver has the other one of said first coupling portion and said second coupling portion; and

brake means actable on said center shaft in its circumferential direction.

31. (Amended) An apparatus according to Claim 30, wherein said process means includes at least one of said charging means, said developing means and cleaning means for cleaning said photosensitive member.

32. (Amended) A process unit which is detachably mountable to a main assembly of an image forming apparatus having a driving portion, said process unit including process means actable on [the] a photosensitive member, said process unit comprising:

a [first] coupling portion fixed to the photosensitive member [having a polygonal shape] and engageable with the driving portion of the main assembly of the apparatus; and
a hole portion engaged with a center shaft penetrating an engaging portion between said [first] coupling portion and the [driver] driving portion.

33. (Amended) A process unit according to Claim 32, wherein said process unit is positioned correctly relative to [said] the image forming apparatus using [said] the center shaft.

34. (Amended) A process unit according to Claim 32, wherein [said] the center shaft has a taper configuration at [the] an end portion thereof.

35. (Amended) A process unit according to Claim 32, wherein said [first] coupling portion has a projection having a polygonal cross-section.

36. (Amended) A process unit according to Claim 35, wherein said polygonal [portion] projection is twisted.

39. (Amended) A process unit according to Claim 32, wherein [said] the center shaft is rotatable integrally with said [first] coupling portion.

40. (Amended) A process unit which is detachably mountable to a main assembly of an image forming apparatus having a driving portion, said process unit including process means actable on a photosensitive member, said process unit comprising:

a coupling portion engageable with the driving portion of the main assembly of the apparatus;

a hole portion engaged with a center shaft penetrating an engaging portion between said coupling portion and the driving portion, wherein the center shaft is rotatable integrally with said coupling portion; and [according to Claim 39, further comprising]

brake means actable on [said] the center shaft in its circumferential direction.

41. (Amended) A process unit according to Claim 40, wherein said brake means applies a frictional force to [said] the center shaft.

42. (Amended) A process unit according to Claim 41, wherein the frictional force is applied by an elastic member contactable to [said] the center shaft.

44. (Amended) A process unit according to Claim 40, wherein said brake means is provided with a torque[!!].

45. (Amended) A process unit according to Claim 40, wherein said brake means includes magnetic force applying means for applying a magnetic force to [said] the center shaft.

46. (Amended) A process unit according to Claim 32, further comprising [a] the photosensitive member.

47. (Amended) A process unit according to Claim 46, wherein said [first] coupling portion is provided on said photosensitive member.

48. (Amended) A process unit according to Claim 32, wherein said process means includes at least one of [said] charging means [said] for charging the photosensitive member, [said] developing means for supplying developer to the photosensitive member, and cleaning means for cleaning the photosensitive member.